ANNEX B
COMMUNICATIONS

I. SITUATION AND ASSUMPTIONS

A. Under KRS 39A.050, the Kentucky Division of Emergency Management (KyEM) is responsible for the development and operation of the State Emergency Operations Center (EOC) and its associated Emergency Communications Center (ECC).

B. The KyEM Director, on behalf of the Governor and Adjutant General, will manage the internal operations of the EOC.

C. The State ECC has the capability to interface with other state and federal emergency or disaster response organizations.

D. Current communications systems are capable of supporting emergency operations within the state.

E. State agencies will utilize their normal communications systems during an emergency situation. Support facilities and equipment will be provided through coordination with the State ECC.

F. To reduce the span of operational control and facilitate the conduct of disaster and emergency operations, the120 counties are organized into 14 KyEM Areas.

G. In areas experiencing major emergency conditions or disaster effects, serious disruption of normal communications and overloading of communications systems is anticipated.

H. In a nuclear attack situation, it is estimated that only 15% of all telephone circuits will be operational. During this same period, radio communication well be severely damaged by electromagnetic pulse (EMP).

I. Terrorist attacks may be directed at the hardware and software of Kentucky's communication system.

II. MISSION

To provide a rapid and efficient means of communication during routine and emergency situations.

III. DIRECTION AND CONTROL

The ECC at the State EOC in Frankfort is the state emergency communication center. Control of the emergency communication center is the responsibility of the KyEM Director.

IV. CONCEPT OF OPERATIONS

A. The KyEM Director is responsible for:

1. The physical security of forms, transmittals and required information.

2. The assignment of personnel to duty stations in the ECC and the maintenance of the ECC equipment.

3. Obtaining additional communication links in an emergency.

B. KyEM Communications Facilities

1. Emergency Communications Center (ECC)

a. Location: EOC Building, Boone Center, Frankfort, Kentucky 40601

b. Protection Factor (PF): 100+

c. Emergency Power: Three 250 KW generators with 600 gallons of fuel. This is enough for 15 days.

2. KyEM Area Offices

Each KyEM Area Office acts as a communications extension of the state EOC and has radio and telephone capabilities. These offices are not EMP protected.

C. The following radio communication systems are available in the ECC.

1. KyEM Operational Service Net

This is a Department of Military Affairs statewide VHF high band two-way radio system. It consists of 46 repeater sites primarily located at KEWS and KET antenna sites. In additional to the repeater station the ECC, KyEM Area offices, and all National Guard Armories have a base station to conduct local operations. The ECC is the control point for this net.

2. Military Affiliate Radio System (MARS)

This system provides backup support for military communication channels. It is a two-way radio system.

3. Kentucky Emergency Warning System (KEWS)

This is a microwave system that provides control links and channels for state agencies to operate and control their voice radio systems, see Appendix B-4.

4. Kentucky Educational Television (KET)

   This system provides statewide voice and video communications from either fixed or mobile points (See Appendix B-5).

5. Automated Flood Warning System

   This rain gauge system provides rainfall data from 35 counties in the eastern third of the state. This data is fed into the National Weather Service computer system. Analysis of the data is used to predict areas of vulnerability to flooding.

6. Amateur Radio

   This system provides state backup voice base and mobile communication. Amateur radio operators, when requested, staff a fully equipped radio shack at the ECC for the state and worldwide communications.

7. State Owned Systems (e.g. State Police, Transportation, Fish & Wildlife, etc.)

   This system provides statewide air and ground voice communication from base and mobile stations.

8. Federal Emergency Management Agency National Radio System (FNARS)

   This system provides voice, teletype, or Morse code between the State EOC and the National Federal Regional Center (FRC).

9. National Oceanic and Atmospheric Administration (NOAA) Weather Radio

   This system provides partial voice coverage of the state. It can be activated from the State ECC or NOAA Weather Offices (See Appendix B-3).

10. KyEM Paging and Cell Phone Service

    Commercial paging and cell phone service used by KyEM.

11. Military Affiliate Radio System (MARS)

    The Army MARS traffic system provides worldwide distribution of radio traffic. Each MARS station is linked to other MARS stations through the radio traffic system.

D. Land Line Systems

1. The following landline communication systems are available in the ECC.

a. Federal Emergency Management Agency National Voice System (FNAVS)

This system provides direct dialing into the FEMA Region IV telephone switchboard at Thomasville, GA; provides direct access to all surrounding Region IV State EOCs; provides direct access to the Federal Telecommunication System (FTS) and the Defense System Network (DSN).

b. Defense System Network (DSN)

This system provides telephone into all military or DOD installations worldwide.

c. National Warning System (NAWAS)

This system provides direct warning from the North American Air Defense Command (NORAD) headquarters in the event of an attack on the U. S. The state side provides a HOT LINE between state ECC, Governor's Office, Kentucky State Police (KSP) Headquarters, all KSP posts, all National Weather Service (NWS) offices in or near the state, and some hardened local EOCs.

d. Satellite Weather Teletype

This system provides state, regional and national weather alerts and summaries of existing or forecasted weather conditions via information down loaded from a satellite into a computer. Selected warnings are automatically transmitted to Storm Watch for e-mail alerting of state and local jurisdictions. In addition warning products are received by the duty officer who, based on this information, initiates telephone alerting of state and local jurisdictions using the Dialogic Communicator Alert and Call Down System. This system uses eight voice phone lines and four fax lines to send out the alerts.

e. Fax Machines

The EOC is supported by fax machines located in the ECC.

f. Bluegrass Army Depot Alert Notification System (BGANS)

A direct telephone line system connecting the state EOC to the Bluegrass Army Depot, and to Madison County and it's host counties, is located in the State EOC. This phone system is tested daily.

g. Mobile Communication Vehicle

KyEM has a mobile communication vehicle and a mobile communication

trailer that can be transported to an incident to provide communications for the command post.

h. Mobile Command Post

KyEM has a mobile command post available that can travel to an incident. Other state agencies have available mobile commands posts that can travel to an incident site to provide communication.

i. Internet

1) All state agency desktop computers are connected to the Internet and have the capability to send and receive messages via the Internet.

2) Many state agency personnel are assigned laptop computers and can send and receive messages via the Internet.

E. Priorities of allocation of emergency communication by KyEM to affected areas will be the following.

1. Lifesaving – Organizations essential to survival, health and safety of the population.

2. Essential industry/commerce/transportation – Organizations which are needed to maintain military operations and economic stability.

3. Others as necessary.

F. Coordination

1. General

a. During State EOC operations, a communications manager will be appointed for each shift in the ECC. All incoming/outgoing messages will be given to the manager before delivery to addressee or transmission. The manager will route all messages and file a copy.

b. A reply or confirmation message will include, within the text, the message number of the original messages to be used as a reference.

c. If state agencies are committed to support emergency or disaster operations, the State EOC will be activated and all EOC operations coordinated by KyEM. All involved state agencies will provide an EOC staff to work from this site.

G. The Communications Officer of each state agency with operating radio systems shall, when directed, be under the direction of KyEM, and will make available to the Director of the KyEM their respective communications systems for

operational and administrative support.

H. It is the responsibility of the local EM Director to establish the communications networks necessary to maintain and control the disaster and emergency services organization operations within the city/county. These networks should provide communication with the following:

1. The local Emergency Operations Center.

2. KyEM Area Office.

3. The State and/or Alternate State Emergency Operations Center.

I. Federal communication support will be provided under ESF#2 “Communications” of the National Response Plan.

J. Operational Phases

1. Preparedness Phase

a. Develop communication-operating procedures.

b. Develop system of determining communications resources available.

c. Insure that necessary forms are available.

d. Conduct training.

e. Insure all personnel concerned are familiar with their responsibilities.

f. Take part in tests and exercises.

g. Upon instructions of the KyEM Director, or representative, shift to Response Phase.

2. Response Phase

a. Increased Readiness Period

1) Complete all steps not yet completed under Preparedness Phase.

2) Review and update annex.

3) Alert personnel needed to carry out annex.

4) Carry out any needed training.

5) Check to insure necessary equipment supplies are available.

6) Take initial steps to increase communication organizations on duty and on standby.

7) Begin providing communication service.

8) Keep records of workers made available, work undertaken and hours worked.

9) Coordinate activities with surrounding states.

10) Upon instructions from the KyEM Director, or representative, shift to Emergency Operation Period or return to Preparedness Phase.

b. Emergency Operation Period

1) Natural Man-made Technological Disaster

a) Complete any procedures under Increased Readiness Period not yet completed.

b) Provide communication services as needed.

c) Coordinate activities with other agencies and governments.

d) Upon direction of the KyEM Director, shift to the recovery phase.

3. Recovery Phase

a. Continue to provide communication service for life saving and damage limiting operations.

b. Survey organization for cost of preparing for, conducting and returning to normal operations.

c. Make available records of work undertaken and hours worked.

d. Upon direction of KyEM Director, or representative, shift to one of the following phases: Preparedness or Response.

K. All emergency operations will be carried out in conformity with KyEM EOC SOP.

L. Increased Readiness Levels will be initiated by the KyEM Director based on information furnished by the federal government or other sources. The required actions are explained in Annex D of this plan.

V. ADMINISTRATIVE SUPPORT

KyEM is responsible for insuring the following:

1. That sufficient KyEM, state and volunteer personnel are identified and trained to operate the ECC communication on a 24-hour basis.

2. That a sufficient supply of communication parts and materials are available to maintain operations for 30 days.

3. That standby electrical power is available to maintain operation for 14 days.

4. That necessary logs, forms and message pads are available.

5. That home phone numbers are maintained at the ECC for use in notifying KyEM and EOC staff of emergencies at off duty hours.

VI. APPENDICES

A. B-1 Emergency Communications

B. B-2 Kentucky EAS Map

C. B-3 NOAA Map

D. B-4 KyEM Network Map and Repeater Sites

E. B-5 KET Map

F. B-6 Shielding Electronic Components From Nuclear Effects

G. B-7 Amateur Radio Repeaters

H. B-8 Communications Matrix

APPENDIX B-1
EMERGENCY COMMUNICATIONS

I. SITUATION AND ASSUMPTIONS

A. The State Emergency Communications Center (ECC) is in a fallout-protected area that is located within the Emergency Operations Center.

B. ECC facilities are available for properly discharging state KyEM functions during periods of man-made or natural disasters.

C. The State ECC includes communications facilities for maintaining effective communications with other departments and divisions of state government, counties and municipalities within the Commonwealth of Kentucky.

D. The KyEM Area Offices include communications facilities for maintaining communications with the State ECC, counties and municipalities within the Commonwealth of Kentucky.

E. The State ECC has an adequate supply of communications material, i.e., logs, forms, message blanks, paper and pencils. A small stock of spare radio parts is maintained for the radio equipment. Spare parts are replenished as need occurs. Fuel for 15 days of operation of generators is on hand at all times.

F. Communications personnel assigned to the State ECC by state government departments and divisions concerned are qualified in departmental communications techniques and procedures. The EOC normally operates with Amateur Radio Emergency Services (ARES) Volunteers. Radio Amateur Civil Emergency Service (RACES) members are utilized for RACES operations that are only conducted during exercises and during times of nationally declared disasters.

G. Leased common carrier equipment is located in the ECC and maintained by the serving company.

H. The Department of Military Affairs (DMA) two-way radio system is maintained by personnel from the Kentucky National Guard (KyNG) and KYEM.

I. The ECC has the ability to participate in the Military Affiliate Radio System (MARS).

J. DMA maintains RACES and Ham communications equipment located in the State ECC.

K. KyEM has the authority to accept or reject personnel assigned to the communications centers.

II. MISSION

This appendix outlines communications resources and procedures to be used in any emergency.

III. DIRECTION AND CONTROL

A. The Kentucky Division of Emergency Management (KyEM) is primarily responsible for the over all coordination, administration, communications and warning of emergency activities within the State of Kentucky. The KyEM will communicate through NAWAS, radio and telephone circuits to Area Offices, state government departments and divisions.

B. Disaster Analysis Group

1. Primary responsibility: Health and Family Services Cabinet, Radiation and Product Safety Branch, communications is by telephone and other agencies' radio systems, to all Area EOCs and RADEF monitoring stations.

2. Support responsibility: Justice and Public Safety Cabinet, Department of State Police, communications is by NAWAS, radio and telephone in the EOC to the State Police Headquarters and 16 posts.

3. Support responsibility: Commerce Cabinet, Department of Fish and Wildlife, communication is by telephone in the EOC to the headquarters and district offices.

4. Support responsibility: Department of Military Affairs, Division of Emergency Management, communications is by NAWAS, radio and telephone circuits to Area EOCs.

5. Support responsibility: Department of Military Affairs, Military Section, communications is by radio and telephone between the EOC and the National Guard armories.

6. Support responsibility: Transportation Cabinet, Department of Highways and Department of Vehicle Regulation, communications is by telephone between the EOC, headquarters and district offices.

7. Support responsibility: Finance and Administration Cabinet, communications is by radio and telephone.

8. Support responsibility: Environmental and Public Protection Cabinet, communications is by telephone.

C. Law Enforcement

1. Primary responsibility: Justice and Public Safety Cabinet, Department of State Police, communications is by radio and telephone between the EOC, headquarters and 16 state police Posts.

2. Support responsibility: Commerce Cabinet, Department of Parks, communications is by telephone.

3. Support responsibility: Department of Military Affairs, National Guard, communications is by radio and telephone.

4. Support responsibility: Transportation Cabinet, Department of Highways, communications is by radio and telephone.

5. Support responsibility: Justice and Public Protection Cabinet, Department of Vehicle Regulation, communications is by telephone and radio.

6. Support responsibility: Environmental and Public Protection Cabinet, Alcohol Beverage Control, communications is by telephone.

D. Search and Rescue

1. Primary responsibility: Department of Military Affairs, Division of Emergency Management, communication is by radio and telephone between the EOC and headquarters or districts of the supporting agencies.

2. Support responsibility: Commerce Cabinet, Department of Fish and Wildlife, communication is by radio and telephone.

3. Support responsibility: Commerce Cabinet, Department of Parks, communication is by telephone.

4. Support responsibility: Justice and Public Safety Cabinet, Department of State Police, communication is by radio and telephone.

5. Support responsibility: Department of Military Affairs, National Guard, communication is by radio and telephone.

6. Support responsibility: Transportation Cabinet, Department of Highways, communication is by radio and telephone.

7. Support responsibility: Environmental and Public Protection Cabinet, Department of Mines and Minerals, communication is by telephone.

E. Fire Suppression

1. Primary responsibility: Environmental and Public Protection Cabinet, Office of the State Fire Marshal, communications is by telephone and radio.

2. Support responsibility: Environmental and Public Protection Cabinet, Division of Forestry, communications is by radio and telephone.

F. Shelter Operations

1. Primary responsibility: Department of Military Affairs, Division of Emergency Management, communications is by radio and telephone.

2. Support responsibility: Commerce Cabinet, Department of Parks; communications is by telephone and radio.

3. Support responsibility: Health and Family Services Cabinet, Department for Social Insurance, communications is by telephone.

4. Support responsibility: Justice and Public Safety Cabinet, communications is by telephone.

5. Support responsibility: Department of Military Affairs, National Guard, communications is by radio and telephone.

6. Support responsibility: Education Cabinet, Department of Education, communications is by radio and telephone.

G. Health and Medical Service

Primary responsibility: Health and Family Services Cabinet, communications is by telephone and radio.

H. Emergency Welfare

1. Primary responsibility: Health and Family Services Cabinet, Department for Social Services, communications is by telephone.

2. Support responsibility: Health and Family Services Cabinet, Department for Social Insurance, communications is by telephone.

3. Support responsibility: Health and Family Services Cabinet, communications is by telephone.

I. Emergency Engineering Service

1. Primary responsibility: Finance and Administration Cabinet, communications is by telephone.

2. Support responsibility: Transportation Cabinet, Department of Highways, communications is by radio and telephone between the EOC, headquarters and districts.

3. Support responsibility: Environmental & Public Protection Cabinet, communications is by telephone and radio.

J. Emergency Public Information

1. Primary responsibility: Department of Military Affairs, Division of Emergency Management, communications is by radio and telephone.

2. Support responsibility: Education Cabinet, Educational TV, communications is by radio and telephone between the EOC, headquarters and broadcast studios.

K. Emergency Intelligence

Primary responsibility: Department of Military Affairs, Division of Emergency Management, communications is by NAWAS, radio and telephone.

IV. CONCEPT OF OPERATIONS

A. KyEM is responsible for the overall administrative and operational control of all KyEM communications facilities.

B. Communicators and operators from other state departments or divisions, while under direct control of their own department or division, and operating their equipment in the EOC will do the following:

1. Be subject to the guidance of KyEM for effective coordinated emergency communications.

2. Adhere to established procedures as outlined in the State Emergency Operations Plan.

3. Adhere to procedures set forth in this Appendix.

C. Communications in the Emergency Operating Center (EOC).

1. Radio Service

a. Division of Emergency Management.

A Local Government Radio Service base station is located in the communications room of the EOC. The antenna is located at the back of

the EOC, Boone National Guard Center, in Frankfort, Kentucky. The base station operates at 142.35 MHz and is linked to the Commonwealth's VHF high band system.

b. Department of Military Affairs.

Console in ECC controls 46 repeaters throughout the state that give direct contact with each armory within the state plus mobile radio coverage as a back up. A high frequency upper side band base station is located at the ECC.

c. Radio Amateur Civil Emergency Service (RACES).

1) The Kentucky Radio Amateur Civil Emergency Service net control station is located in the state EOC, ECC. The network extends from state to area, and area to county or municipal level. The RACES assigned frequencies for the State of Kentucky are: 3524.5, 7097.5, 7109.5, 4050.0, and 21050.0 kHz for CW (Radiotelegraph) and RTTY (Radio teletype). 3993.5 kHz for voice (Radio-telephone) on lower-side-band (LSB) VHF 2-meter FM transceivers are in operation throughout the state for RACES communications to state, area and county/municipal level.

2) RACES support will be provided in conformity to the "KyEM RACES Communication Plan" and the Army MARS Netplan.

d. Emergency Alert Service.

A remote pickup unit is installed in the state EOC that operates on 455.250 MHz direct to WAMZ-FM station in Louisville. This system allows voice programming for both warning and public information (See Appendix B-2).

e. NOAA Weather Stations.

There are ten primary and 25 shadow NOAA weather transmitters in Kentucky. These can be activated by their National Weather Service Control Station, or from the EOC (See Appendix B-3).

f. American Red Cross.

The FCC has assigned the Red Cross the emergency frequency of 47.42 MHz. The Red Cross can set up a base station at the EOC.

2. Common Carrier Service

a. National Warning System (NAWAS).

The NAWAS warning point equipment is located in the State Police Headquarters Communications Center. The alternate warning point is located in the ECC of the state EOC. Kentucky has 29 NAWAS warning points or extensions that are used for receiving national attack warnings and for statewide dissemination of emergency disaster information.

b. Commercial Telephones.

1) The state EOC is served by a Lucent phone switch provided by the Department of Military Affairs. Two lines are reserved for emergency service calls; those phone numbers are 800-255-2587 and 502-607-1610.

2) The phone system is manned 24 hours a day.

3) There are fourteen telephone lines, plus the capability for 20 additional lines, installed in the operations room of the EOC for use by the agency representatives when the EOC is activated.

4) There are six tie lines between the telephone switch at the ECC and the telephone switch at the KEWS headquarters. These tie lines provide the capability to use six more outgoing trunk lines and access to the microwave phone system to all the KSP Posts, KET facilities, National Weather Service offices, and all other state agencies which use the system.

c. National Communications System includes the telephone (FNAVS), teletype (FNATS), and radio (FNARS) between State EOC and FEMA Region Four, Thomasville, Georgia.

D. Emergency Communication Center activation and staffing for natural and manmade disasters.

1. The warning point in the ECC is staffed 24 hours a day. Upon receipt of a warning, the Telecommunications Manager or Duty Officer will immediately call and relay the warning information to the KyEM Operations Branch Manager, KyEM PIO and affected KyEM Area Offices.

2. The State EOC is also a weather warning point and will receive weather warning information on a 24-hour basis.

3. When a notice of an actual or potential emergency or disaster is received, KyEM will implement the following actions:

a. Notify via State NAWAS circuit all the NAWAS points within the Commonwealth of Kentucky that may be or are being affected.

b. Provide coverage of the State EOC RACES stations on a 24-hour basis.

c. Check out operational readiness of all communications equipment in the State ECC and KyEM Area Offices.

d. Complete staffing pattern, watch list, and personnel assignments for he ECC. Ascertain that the assigned personnel are knowledgeable of these requirements.

e. Check communications supplies and/or materials and insure availability.

f. Establish emergency maintenance arrangements with available technicians.

g. Check operational logs, message handling and communications procedures for adequacy, and ascertain that all communications assigned personnel are familiar with procedures.

h. Notify the station manager of the entry point EAS station to be ready for possible local programming by the State government from the EOC.

i. Direct affected KyEM Area Managers to arrange for 24-hour communications for their Area Office, if needed.

j. Direct affected KyEM Area Managers to advise local governments to partially or fully activate the local EOC.

k. Complete all actions required for installing communication equipment in EOC.

l. Federal communication assistance may be available under the provisions of PL 93-288.

E. ECC activation and staffing for a nuclear attack.

1. The primary NAWAS warning point is in the State EOC Communications Center that is manned 24 hours a day. Upon receipt of a warning, the communications officer or dispatcher will immediately call and relay the warning information to the various warning points in state and local government.

2. KSP is the alternate NAWAS warning point and will receive the warning information.

3. When a notice of an Increased Readiness Level is received, KyEM will implement the following actions:

   a. Notify via State NAWAS circuit the NAWAS points within the Commonwealth of Kentucky.

   b. Request Area Amateur Operator Communicators to provide coverage of the State EOC AREA/RACES stations on a 24-hour basis.

   c. Check out operational readiness of all communications equipment in the State and Area ECCs.

   d. Expedite completion of installation of communications equipment in the State and Area ECCs.

   e. Complete staffing pattern, watch list and personnel assignments for the ECCs. Ascertain that the as-signed personnel are knowledgeable of their responsibilities.

   f. Check communications supplies and materials and insure availability.

   g. Accelerate all communications personnel training.

   h. Establish emergency maintenance arrangements with available technicians.

   i. Check operational logs, message handling and communications procedures for adequacy and ascertain that all communications assigned personnel are familiar with procedures.

   j. Notify the station manager of the entry point EAS station to be ready for local programming by state government from the EOC.

   k. Complete all actions required for installing and hauling up communication equipment in EOC.

   l. When a more serious Increased Readiness Level is issued, KyEM will implement the following actions:

      1) Notify all NAWAS points within the Commonwealth of Kentucky.

      2) Direct Area communicators to fully staff the State, Area and county/municipalities RACES network and place all Area EOCs RACES stations on 24-hour duty.

3) Continue actions not completed in previous readiness levels.

m. Upon receipt of an "ATTACK WARNING" over NAWAS, EAS, CD siren or any other means, the Telecommunications Manager will complete all phases not accomplished under previous readiness levels. This action will be an automatic directive of the Director, Division of Emergency Management. Departments and divisions of state government under the State Emergency Operations Plan (EOP) will immediately fulfill their emergency communications assignments to the EOC without further notification.

V. ADMINISTRATIVE SUPPORT

A. The Commonwealth of Kentucky ECC is located in the State Emergency Operations Center, Boone National Guard Center, Frankfort, Kentucky. This is also administrative headquarters of the Division of Emergency Management.

B. KyEM Area Emergency Operations Centers are located as follows:

1. Area 1
   Graves County Court House
   Mayfield, KY 42066
   O) 502-607-1601
   O) 270-247-9712
   Fax 270-247-4072

2. Area 2
   National Guard Armory
   Hopkinsville, KY 42240
   O) 502-607-1602
   O) 270-889-6004
   Fax 270-889-6005

3. Area 3
   National Guard Armory
   Owensboro, KY 42302
   O) 502-607-1603
   O) 270-686-7896
   Fax 270-686-7897

4. Area 4
   National Guard Armory
   Bowling Green, KY 42102
   O) 502-607-1604
   O) 207-746-7843
   Fax 270-746-7504

5. Area 5
   National Guard Armory
   Elizabethtown, KY 42702
   O) 502-607-1605
   O) 270-769-0492
   Fax 270-769-0543

6. Area 6
   National Guard Armory
   2729 Crittenden Drive
   Louisville, KY 40209-1199
   O) 502-607-1666
   O) 502-636-0439
   Fax 502-638-9524

7. Area 7
   National Guard Armory
   183 Beaver Road
   Walton, KY 41094
   O) 502-607-1607
   O) 859-485-4134
   Fax 502-607-3113

8. Area 8
   Morehead State University
   Morehead, KY 40351
   O) 502-607-1608
   O) 606-784-5830
   Fax 606-780-4410

9. Area 9
   National Guard Armory
   Prestonsburg, KY 41653
   O) 502-607-1609
   O) 606-886-9157
   Fax 606-886-1386

10. Area 10
    National Guard Armory
    Hazard, KY 41701-9420
    O) 502-607-1654
    O) 606-435-6012
    Fax 606-435-6130

11. Area 11
    National Guard Armory

London, KY 40741
O) 502-607-1655
O) 606-877-3149
Fax 606-878-2575

12. Area 12
National Guard Armory
Somerset, KY 42702
O) 502-607-1656
O) 606-677-0528
Fax 606-677-0537

13. Area 13
National Guard Armory
Lexington, KY 40544-4288
O) 502-607-1657
O) 859-246-2334
Fax 859-233-0019

14. Area 14
Airport Terminal Building
Capital City Airport
Frankfort, KY 40601
O) 502-607-1658
Fax 502-607-1863

VI. TABS

TAB B-1-1 Kentucky Radio Amateur Civil Emergency Services Plan

TAB B-1-1
KENTUCKY RADIO AMATEUR CIVIL EMERGENCY SERVICES PLAN
With Coordinating Instructions for ARES Activation

I. AUTHORITY

A. RACES is authorized by 47 CFR Part 97.407 of the Federal communications Commission. A copy of 47 CFR Part 97.407 is included as Appendix B to this plan. In the event that the President should ever invoke the War Emergency Powers Act, amateur radio operators not designated as a RACES station could be silenced. Stations operating in RACES would only be allowed to transmit at the direction of the appointing governmental authority.

B. RACES guidance is also provided by FEMA document CPG1-15 March 1991. A copy of this document is available at the FEMA web site: http://www.fema.gov/library/civilpg.shtm NOTE: FCC Rules, Part 97 still apply to all RACES stations and RACES operators participating in RACES operations. AMATEURS OPERATING IN RACES WILL USE THEIR PRIMARY CALLSIGNS, ***OFFICIAL RACES CALLSIGNS ARE NO LONGER BEING ISSUED OR RENEWED BY THE FCC AS OF APRIL 15, 2000. (See Appendix H in the rear of this plan.)***

II. SITUATION AND ASSUMPTIONS

This plan details the implementation of the Radio Amateur Civil Emergency Service (RACES) within the Commonwealth of Kentucky. Instructions and general operating procedures presented in this document are applicable to message traffic handling by RACES and use in all RACES training. All amateur radio operators are encouraged to use this document in training and/or activated net operations.

III. MISSION

A. RACES is an organization of federally licensed amateur radio operators who volunteer to provide radio communications for state and local governments during times of emergency. Created in 1952, primarily to serve in civil defense emergencies, RACES provides essential communications and warning links to supplement State and Local government agencies during emergencies. RACES is organized to provide emergency communications for civil preparedness purposes only. RACES is a special part of the amateur radio service sponsored by the Federal Emergency Management Agency FEMA) and is conducted by amateur radio operators using their primary station licenses or by existing RACES stations. **During an emergency, RACES is operated under the direct control of the local emergency management director, or under the direct control of the Director of the Kentucky Division of Emergency Management, through the State Radio Officer (SRO) or his/her assistants.**

B. Both, RACES and Amateur Radio Emergency Service (ARES) response are discussed in the Kentucky Emergency Operations Plan (KyEOP). The KyEOP is the guidance document for emergency response within the Commonwealth of Kentucky. The Kentucky Emergency Operations Plan establishes the fundamental policies, basic program strategies, assumptions and mechanisms through which the Commonwealth will mobilize resources and conduct activities to guide and support local emergency management efforts through preparedness, mitigation, response and recovery. The KyEOP addresses coordinated region and inter-regional evacuation and sheltering, post disaster response and recovery; rapid deployment and pre-deployment of resources; annual exercises to determine the ability of state and local government to respond to emergencies; and clearly defined responsibilities for state agencies

through the use of functional Annexes with appertaining Appendices and Tab's.

C. When an emergency occurs or disaster strikes, local governments will utilize their own response resources first, followed by implementation of mutual aid agreements. Only when the emergency or disaster has depleted or threatens to deplete their own response capabilities would local governments be expected to request assistance from the State.

D. Boone Center, the State Emergency Operations Center (State EOC) will be activated, and staffed with Kentucky Emergency Management personnel and representatives from state agencies and private organizations. All communications, including ARES and RACES operations, are conducted in accordance with Annex B (Communications) of the Ky Emergency Operations Plan.

IV. DIRECTION AND CONTROL

A. Should the need arise; the Kentucky Division of Emergency Management Director or their designee, based on this plan, may request the use of available volunteer communications equipment and personnel from ARES or RACES.

B. The Director, through the Information Systems Branch Manager, will alert the State RACES Officer and request that the RACES organization supporting the state Emergency Operations Center (EOC) bring up communications links between needed locations.

C. Once contacted, the State RACES Officer will implement this plan in coordination with the RACES Region Coordinators and local RACES Officers. Amateur radio, through RACES organizations/operators, should be prepared to support the following tasks/missions at the state and local levels:

1. Back-up emergency direction and control communications between the state EOC and local government Emergency Operations Centers (EOC).

2. Back-up direction and control communications within local jurisdictions.

3. Warning communications between state and local government agencies.

4. Back-up emergency communications between a state agency headquarters and its respective district/region/area headquarters. Back-up emergency communications between district/region/area headquarters and field units where communications are limited or non-existent.

5. Communications between the state EOC, local EOC, and respective designated staging areas and base camps.

6. Back-up emergency communications between the states EOC, FEMA Regional Operations Center (ROC), and the FEMA Disaster Field Office (DFO).

7. Back-up emergency communications for federal agencies (i.e. US Forest Service, Department of Energy and others), as needed.

8. Communications and video (if available) support, as needed, for conduct of search and rescue operations, damage assessment, or other state and local government assigned tasks.

9. Emergency communications for shelters, emergency worker centers, sheriff and police departments, sheriff/police/fire dispatch centers, 9-1-1

centers, fire departments/districts, and other requirements designated by the local emergency management office.

D. This plan recognizes that amateur radio, primarily through ARES organizations/operators, will continue to support requirements for American Red Cross, hospitals, the business community, other non-government agencies, and the public. If needed, the State RACES Officer will coordinate with the ARES SEC's and DEC's for deployment of ARES organizations to support possible requirements identified above. If the community adopts a dual membership ARES/RACES organization, operations will be fluid and coordination is maximized between local government and served agencies.

E. Responsibilities:

1. Local Emergency Management Agencies are responsible for:

a. Appointing a local RACES Officer and any assistants.

b. Developing and implementing a RACES plan for the employment of amateur radio within the jurisdiction. The local RACES plan should complement the state plan.

c. Maintaining, at the local EOC, a RACES radio station capable of communicating on appropriate and assigned amateur frequencies used within the state and local jurisdiction for emergency communications. In the absence of such a station, local EMA's should insure that they have access to equipment that will be brought to the EOC or EMA office and a place set aside for it.

d. Being prepared to provide amateur radio communications to state, federal, and other organizations located within the jurisdiction.

e. Being prepared to receive traffic from the general public (licensed independent stations) over local emergency nets.

2. State Emergency Management, State RACES Officer shall be responsible for:

a. Maintaining and executing this plan as needed. Identifying and coordinating the operation of amateur networks to support the operational requirements identified above.

b. Identifying and designating the RACES Area Coordinators and regional Net Control Stations. Ensuring designated stations are prepared to assume role as the State NCS.

c. Supervise the operation of the RACES radio station located in the state EOC. Ensuring that operators are trained and exercised on the equipment.

d. Coordinating with local RACES Officers, ARES SEC, and/or ARES DEC and EC's, the use of local amateur operators and equipment in support of state government agencies, federal agencies, and others located within a local jurisdiction. ARES organizations, which are employed to support above agencies, will be considered as RACES operations so long as they are registered with their local EMA.

F. IDENTIFICATION OF RACES OPERATORS

RACES operators are enrolled in the emergency management group for a specific government entity. That governmental entity is the only agency that can issue Identification for the RACES operator for use within the area of the individual's responsibility. ARES identification is available by being enrolled in an ARES group.

G. FOUR LEVELS OF EMERGENCY

Level 1: Day to Day Emergency. Local response capability can handle situation. No State assistance is required.

Level 2: Minor Emergency. Situation intensifies. A local declaration of a State of Emergency is signed by the chief elected official of that jurisdiction. KyEM advised.

Level 3: Major Emergency. Local response capabilities inadequate. Situation requires state response assistance and possibly federal assistance. State EOC is activated. Governor declares State of Emergency.

Level 4: Catastrophic Emergency. Widespread threats to public safety exist. Large scale State and Federal response and recovery assistance required.

H. RACES ACTIVATIONS

1. RACES may be activated at state level by: The Director of Ky Division of Emergency Management or their designee, the KyEOC Operations Branch Manager or the Information Systems Branch Manager. All RACES nets in Kentucky are to be activated for Statewide RACES Activations. Notification of Statewide RACES Activations is made by or on behalf of the State RACES Officer to each Area RACES Officer. Each RACES officer contacts each of the net control stations in the respective region for activation. Any of the fourteen Area Managers for the Kentucky Division of Emergency Management may activate RACES nets for their respective regions. Local EMA Directors may activate RACES operations within their community. A RACES activation means that all RACES nets in the affected area are requested to be opened for official traffic.

2. RACES may be activated at any level with the following priorities:

   a. Safety of life;
   b. Preservation of property;
   c. Alleviation of human suffering and need;
   d. Any disaster endangering the public;
   e. Act of sabotage; or
   f. Testing and drills

3. RACES stations and operators supplement surviving communications facilities, or provide emergency communications facilities. RACES will be activated for all Level 4 emergencies and may be activated for Level 2 and 3 emergencies. RACES may also be activated at the discretion of the appropriate KyEM officials.

V. CONCEPT OF OPERATIONS

A. RACES ELIGIBILITY

1. Any United States citizen who possesses a valid FCC Amateur Radio Operators License, Technician class or higher, is eligible to become a member of RACES. The services of amateurs who have a Novice class license may be used, but this is not recommended due to privilege restrictions upon their license class. All RACES operators are required to operate within the restrictions of their license class, as per part 97. All RACES Radio Officers must hold a General Class or higher amateur radio license to be appointed by their respective emergency management jurisdiction, per FEMA CPG 1-15 Section 2-3 (b), dated March 18, 1991.

B. SUPPORT COMMUNICATIONS

1. There are several means of support communications that are available to assist in emergencies. For the purpose of this plan, we shall address the following:

C. AMATEUR RADIO EMERGENCY SERVICE (ARES)

1. Ky ARES is sponsored by the American Radio Relay League (ARRL) and is an affiliate of the Department of Homeland Security's CitizenCorps by a formal Statement of Affiliation between DHS and ARRL signed during the ARRL 2003 National Convention, June 21, 2003. KyEM further recognizes that Ky ARES is an organization of amateur radio operators licensed by the Federal Communications Commission whose purpose it is to, in an organized and professional manner, assist government agencies within the local, state and federal tiers of government with emergency communications support in time of public emergency.

2. Ky ARES coordinates with the hierarchy of the ARES program within the Commonwealth of Kentucky, which includes 14 ARES Districts, which mirror the 14 established KyEM Areas, and local ARES programs at county levels across the Commonwealth.

D. RADIO AMATEUR CIVIL EMERGENCY SERVICE (RACES)

1. The RACES organization in Kentucky is divided into fourteen areas established by the Kentucky Division of Emergency Management. Each Area may have an Area RACES Radio officer appointed by the SRO, who is responsible for developing and providing methods for the cities and towns in their area to communicate with their neighbors and to state government.

2. The Kentucky ARES/RACES organization has a weekly HF radio network which meets Monday evenings at 8 pm Eastern / 7 PM Central time on 3.888 MHz. All cities and towns in the Commonwealth are invited to participate by sending their RACES radio officer or designee to check in. During these nets issues of administration, coordination and training are discussed for both the ARES and RACES programs of the Commonwealth. In the event of an emergency activation of either ARES or RACES net operations, the nets will be on the same frequencies as the weekly net with the addition of 7.228 MHz for day time operations.

3. Per Annex B (Appendix B-1) of the KyEOP, The RACES assigned

frequencies for Kentucky are: 3524.5, 7097.5, 7109.5, 4050.0, and 21050.0 kHz for CW (Radiotelegraph) and RTTY (Radio teletype). 3993.5 kHz for voice on lower-side-band (LSB) and VHF/UHF transceivers are authorized for operation throughout the state for RACES communications to state, area and county/municipal level should the President's War Powers be invoked. See Appendix A.

4. To allow a smoother transition from ARES to RACES operations in the midst of a developing situation, it is recommended that communities examine the option of having a dual enrollment of amateurs in both organizations. RACES cannot function prior to a state of emergency being issued by local or state governments and ARES may not be able to function in the event of national crisis should the President exercise his full, War Emergency Powers authorities and cause non-RACES operators to leave the air. By having local amateurs enrolled in both organizations, EMA's can reap the full benefit from amateur radio's communications support capabilities during community events and 'stand by' activities in the stages when it is too early to determine the exact threat level as the situation is still fluid. Once emergency operations are needed, EMA's have the option of leaving amateurs in ARES mode for lesser emergencies and disasters or in the event of a large crisis, can activate these same individuals in a RACES mode without changing personnel or assigned duty stations.

E. SKYWARN

1. SKYWARN is a component of ARES, and activates based upon data from the National Weather Service. Many times events requiring RACES and ARES activations are Weather situations, and thus require a level of coordination between these groups. SKYWARN has it's own criteria for activations and reporting information. These are described in SKYWARN plans and SOP's outside this document.

F. OUTLINE OF ARES/RACES COOPERATION

1. Per CPG 1-15, the state and local Emergency Management Directors (or designated representative) appoints, in writing, a reliable amateur radio operator to serve as the RACES Officer. In cooperation with the ARES, the Kentucky Section Emergency Coordinator (SEC) and Assistant Section Emergency Coordinator or others may be appointed as Assistant State RACES Officers and the District Emergency Coordinators (DEC) may be appointed as RACES Area Coordinators. Doing this allows full coordination and functionality of both programs

2. The local RACES Officer, appointed by the local EMA Director, serves as the liaison between the RACES organization and the local emergency management Director, recruits members for the organization, and develops plans for the employment of the organization in support of the government agencies, which it serves. It is suggested that, whenever possible, the ARES local Emergency Coordinator (EC) and the local RACES Officer be the same person.

3. The RACES organization consists of volunteers who possess a valid FCC Amateur Radio Operator License. Additionally, RACES participants shall be registered as emergency workers with the state or local emergency management office they primarily support.

G. RACES NET OPERATIONS GUIDELINES

1. Good net procedure for all stations on a net suggests that all stations use the following prosigns:

   OVER - When you are inviting another specific station to talk.
   OUT – When you are ending your transmission and expect no response.
   BREAK – When you have been communicating with one station, and wish to invite another station to transmit Eg: “Franklin County EOC, Roger your message – BREAK – Madison County EOC what traffic do you have?” These techniques can be used effectively to keep the frequency clear, and to make it obvious which specific stations are invited to transmit and minimize unwanted interruptions. Nets will be asked to use these prosigns.

2. When conducting a conversation, keep it short and to the point. We do not wish to tie up frequencies with long-winded explanations or transmissions unless the net control has specifically invited it (and net control stations should specifically discourage any transmissions not pertaining to the event when in active control). Unless transmitting a formal message, all transmissions should be limited to 30 seconds or less.

H. TACTICAL CALLSIGNS

1. Identify using tactical callsigns at all times. **Only** identify with FCC callsigns at the end of an exchange, or every ten minutes. Use your FCC assigned callsign when checking in to a net only if you have the expectation that you may not transmit within 10 minutes.

   Eg: “This is … Ky State EOC, KY4EOC OVER” or:
   “KyEM Area 5, this is Hardin County EOC OVER”
   “State EOC, KY4EOC OUT.”

2. If you must call a station, call the station by the tactical callsign, not the FCC assigned callsign. Wait until the conversation is over or 10 minutes to use your FCC identification. If no response is received, announce that no contact was made, your tactical callsign and your FCC callsign.

I. RACES NET CONTROL DUTIES AND AUTHORITIES

1. RACES nets are directed nets and will be treated accordingly. The authority of the Net Control Station (NCS) extends only to the operation of the net on the air. However, within this scope, and while the net is in session, the authority of the NCS is absolute. It is the duty of the NCS to maintain strict discipline and adherence to standard operating procedures. The decisions of the NCS are final and NCS instructions must be strictly complied with. The content of messages, message formatting, handling of the net, are not subjects to be discussed during net operations

2. Messages are passed, and acknowledged during a net. Discussion of net procedures must be held after the business of the Net and NCS are complete. It is not the job of the net participants to second-guess the NCS’ actions and this will not be tolerated.

3. The NCS derives their authority from the KyEM Director, the State RACES Radio officer, or the Area or local RACES Radio officer, and is responsible to that person for the conduct of the net. While using shared repeater systems the NCS may, at his/her discretion, hold the net in

informal mode during a drill or emergency activation and allow other traffic on the net frequency.

4. Net control operators are responsible for the efficient organization of the net and efficient passage of traffic according to priority. In every case, net control stations are required to determine the precedence of any traffic that the net holds, and passing the most urgent traffic before all other traffic.

5. One particular activity that net control stations should take is to regularly send stations with traffic off to another frequency to pass the traffic so that the net can proceed without interruption. Generally, all traffic should move off frequency to be passed, unless more than one station is receiving the traffic.

6. In an activation scenario, a net control should be appointed at least temporarily, that is not the station moving the majority of the traffic. This will support traffic being passed off frequency and net operations continuing undisturbed.

J. PROCEDURES FOR DIGITAL MODES

Digital modes such as APRS, Packet, Pactor, Pactor II, PSK 31 etc., may also be used for the transmission of RACES messages. Due to the built-in error checking in some of these modes, plain language will be used at all times. The use of Q-Signals and Prowords are to be avoided. If an error is made during a "keyboard-to-keyboard" digital transmission, the sending operator will send: "The following was sent in error", followed by the words that were sent in error. This will be followed by the words "correction follows", followed by the proper text. If an error is discovered in a message sent to a bulletin board, the message will be withdrawn if possible. If this is not possible, a subsequent message outlining and correcting the error will be sent.

NOTE: A message is not considered as delivered until the receiving station acknowledges receipt of the message. A message left on a "public bulletin board" or a "personal bulletin board" is not considered as delivered until acknowledged by the station it was intended for. For this reason, "keyboard-to-keyboard" transmission is encouraged whenever possible.

VI. APPENDICES

A. RACES FREQUENCY ALLOCATIONS DURING INVOCATION OF THE PRESIDENTIAL WAR EMERGENCY POWERS ACT

A. FCC Rules and Regulations, 47 CFR PART 97.407

C. Jurisdiction RACES Radio Officer Appointment Form

D. RACES Radio Operator Appointment Form

E. Jurisdiction Amateur Radio Resources Inventory List

F. KyEM Critical Sector Assessment Report

G. Glossary of Definitions

H. FCC Eliminates RACES Station Licenses

APPENDIX A – RACES FREQUENCY ALLOCATIONS DURING INVOCATION OF THE PRESIDENTIAL WAR EMERGENCY POWERS ACT

In the event of a national crisis and the invocation of the President's War Powers, the frequencies listed below are designated for RACES, and only those stations participating in RACES are authorized to use them. Use of these and other amateur service frequencies should be coordinated with the State and/or County RACES Officers. These may be assigned and used on State and Local Level RACES nets.

Frequency or Frequency Bands In KHz:

1. 1800-1825
   1975-2000
   3500-3550
   3930-3980
   3984-4000
   7079-7125
   7245-7255
   10100-10150
   14047-14053
   14220-14230
   14331-14350
   21047-21053
   21.228-21.267 MHz:
   28.55-28.75
   29.237-29.273
   29.45-29.6
   50.35-50.75
   52-54
   144.50-145.71
   146-148
   2390-2450

2. In addition, 1.25 cm (220.0-225.0 MHz.), 70 cm (420.0- 450.0 MHz), and 23 cm (1240-1300 MHz) are Available.

3. Channels at 3.997 MHz (USB) and 53.30 MHz (FM) may be used in emergency areas when required to make initial contact with a military unit and for communications with military stations on matters requiring coordination.

C. Use of frequencies should be coordinated with the County RACES Officer in which assigned or operating in.

TITLE 47—TELECOMMUNICATION COMMISSION
PART 97--AMATEUR RADIO SERVICE-- Subpart E--Providing Emergency Communications

Sec. 97.**407** Radio Amateur Civil Emergency Service.

(a) No station may transmit in RACES unless it is an FCC-licensed primary, club, or military recreation station and it is certified by a civil defense organization as registered with that organization, or it is an FCC-licensed RACES station. No person may be the control operator of a RACES station, or may be the control operator of an amateur station transmitting in RACES unless that person holds a FCC-issued amateur operator license and is certified by a civil defense organization as enrolled in that organization.

(b) The frequency bands and segments and emissions authorized to the control operator are available to stations transmitting communications in RACES on a shared basis with the amateur service. In the event of an emergency which necessitates the invoking of the President's War Emergency Powers under the provisions of Section 706 of the Communications Act of 1934, as amended, 47 U.S.C. 606, RACES stations and amateur stations participating in RACES may only transmit on the following frequency segments:

(1) The 1800-1825 KHz, 1975-2000 KHz, 3.50-3.55 MHz, 3.93-3.98 MHz, 3.984-4.000 MHz, 7.079-7.125 MHz, 7.245-7.255 MHz, 10.10-10.15 MHz, 14.047-14.053 MHz, 14.22-14.23 MHz, 14.331-14.350 MHz, 21.047-21.053 MHz, 21.228-21.267 MHz, 28.55-28.75 MHz, 29.237-29.273 MHz, 29.45-29.65 MHz, 50.35-50.75 MHz, 52-54 MHz, 144.50-145.71 MHz, 146-148 MHz, 2390-2450 MHz segments;

(2) The 1.25 m, 70 cm and 23 cm bands; and

(3) The channels at 3.997 MHz and 53.30 MHz may be used in emergency areas when required to make initial contact with a military unit and for communications with military stations on matters requiring coordination.

(c) A RACES station may only communicate with:

(1) Another RACES station;

(2) An amateur station registered with a civil defense organization;

(3) A United States Government station authorized by the responsible agency to communicate with RACES stations;

(4) A station in a service regulated by the FCC whenever such communication is authorized by the FCC.

(d) An amateur station registered with a civil defense organization may only communicate with:

(1) A RACES station licensed to the civil defense organization with which the amateur station is registered;

(2) The following stations upon authorization of the responsible civil defense official for the organization with which the amateur station is registered:

(i) A RACES station licensed to another civil defense organization;

(ii) An amateur station registered with the same or another civil defense organization;
(iii) A United States Government station authorized by the responsible agency to communicate with RACES stations; and

(iv) A station in a service regulated by the FCC whenever such communication is authorized by the FCC.

(e) All communications transmitted in RACES must be specifically authorized by the civil defense organization for the area served. Only civil defense communications of the following types may be transmitted:

(1) Messages concerning impending or actual conditions jeopardizing the public safety, or affecting the national defense or security during periods of local, regional, or national civil emergencies;

(2) Messages directly concerning the immediate safety of life of individuals, the immediate protection of property, maintenance of law and order, alleviation of human suffering and need, and the combating of armed attack or sabotage;

(3) Messages directly concerning the accumulation and dissemination of public information or instructions to the civilian population essential to the activities of the civil defense organization or other authorized governmental or relief agencies; and

(4) Communications for RACES training drills and tests necessary to ensure the establishment and maintenance of orderly and efficient operation of the RACES as ordered by the responsible civil defense organization served. Such drills and tests may not exceed a total time of 1 hour per week. With the approval of the chief officer for emergency planning in the applicable State, Commonwealth, District or territory, however, such tests and drills may be conducted for a period not to exceed 72 hours no more than twice in any calendar year.

[54 FR 25857, June 20, 1989, as amended at 65 FR 6550, Feb. 10, 2000]

RADIO AMATEUR CIVIL EMERGENCY SERVICE (RACES)
RADIO OFFICER APPOINTMENT FORM

For the Jurisdiction of _____, Kentucky

I, _____, appoint the following individual a Radio Amateur Civil Emergency Service (RACES) Radio Officer. In addition, this individual is also enrolled as a member of our Emergency Management Agency of this community.

Amateur Radio Call Sign:_____ License Class:_____
*RO's Must hold a General, Advanced or Extra Class

Name:_____

Street Address:_____

Mailing Address:_____

Town State Zip:_____

Home Telephone #:_____

Work Telephone #:_____

Pager #(If Applicable):_____

PIN #:_____

Email Address(If Applicable):_____

Appointment Expiration: 2 Years from date below unless sooner terminated by EM authority or appointee resigns.

_____ Date:_____
Emergency Management Director

RADIO AMATEUR CIVIL EMERGENCY SERVICE (RACES)
RADIO OPERATOR APPOINTMENT FORM

For the Jurisdiction of _____, Kentucky

I, _____, appoint the following individual a Radio Amateur Civil Emergency Service (RACES) Radio Operator. In addition, this Individual is also enrolled as a member of our Emergency Management Agency of this community.

Amateur Radio Call Sign:_____

Name:_____

Street Address:_____

Mailing Address:_____

Town State Zip:_____

Home Telephone #:_____

Work Telephone #:_____

Pager #(If Applicable):_____

PIN #:_____

Email Address(If Applicable):_____

Appointment Expiration: 2 Years from date below unless sooner terminated by EM authority or appointee resigns.

_____ Date:_____
Emergency Management Director

APPENDIX E- JURISDICTION

AMATEUR RADIO RESOURCES INVENTORY LIST

JURISDICTION: _____

POINT OF CONTACT: _____ PHONE NO. _____

(24-hr Number)

NAME	CALLSIGN	LICENSE	TYPE EQUIP.	MOBILE/PORT.

CERTIFICATION: Individuals listed have met the requirements to be registered as Emergency Workers within this jurisdiction.

EM Director and/or POC Initials: _____ Date: _____

Send a copy to the State Radio Officer, Boone EOC, Frankfort, Ky.

INSTRUCTIONS FOR COMPLETING INFORMATION

JURISDICTION:	**County or City**
POINT OF CONTACT:	**Provide the name of the person who will be the primary contact for coordinating use of personnel and/or equipment.**
PHONE NO.:	**Provide a 24-hour contact number of the POC.**
NAME:	**Provide name of individual (last name, first name, middle initial)**
CALLSIGN:	**Provide amateur radio callsign of individual.**
LICENSE:	**Indicate highest level of amateur radio license obtained. Levels (lowest to highest) are Technician, General, Advanced, and Extra.**
TYPE EQUIP:	**Using letter designator below, indicate type of equipment(s) individual can operate and/or has available for use.** **A - 2-meter voice** **B - 2-meter packet** **C - APRS** **D - 6-meter voice** **E - 80 or 40 meter CW** **F - 40-meter voice and/or pactor** **G - 80-meter voice and/or pactor** **H - 440 MHz voice and/or packet** **I - Amateur TV** **J - PSK 31**
MOBILE/PORT.:	**Using letter designator above, indicate which equipment is available for use in mobile and/or portable configurations.**

Amateur Radio Operators are asked to submit a CSAR report to their local EOC at the beginning of an operation. Subsequent reports should be submitted every four hours, on the hour, for the duration of the operation. Use the NOTES section to provide additional information. ARES, RACES, MARS Operators are requested to submit this report based on their knowledge of the local situation based on a preliminary damage survey. Preferred method of communications is by local repeater, e-mail, Packet Radio, H F voice radio, FAX, telephone, and messenger (in order). Transmit your estimate of a particular status based on you knowledge of the situation. Report only critical sectors that you have reliable information on. Please do not guess. Status Codes are as follows:

GREEN **normal operations**
AMBER **operations less than normal, but not causing significant problems**
RED **normal operations impossible, significant problems identified**

Reporting Office/Jurisdiction/Call Sign		***Date/Time***
Line No.	**Critical Sector Assessment Item**	**Green, Amber or Red**
1.	**Energy – Electric Power, Fuel Oil, Natural Gas**	
2.	**Communications – Phone, Computer Networks, Radio, TV, & 2Way Radio**	
3.	**Transportation – Air, Rail, Marine & Auto**	
4.	**Health Services – Hospitals, Nursing Homes, Health Departments, EMS & Mental Institutions**	
5.	**Water and Sewer**	
6.	**Public Works**	
7.	**Emergency Services – Law Enforcement, Fire, EMS Correctional Institutions, 911 PSAPs**	
8.	**Other Essential Government Services – Medicaid, Welfare, Prescriptions, Food Stamps**	
9.	**Financial Services – Banks, Savings & Loans**	
10.	**Technological Hazards – Chemical Plants, Pipelines and other processes**	
11.	**Commerce – Local Businesses, Food & Fuel**	
12	**Public Information – Public Perceptions**	

NOTES:

KyEM CRITICAL SECTOR ASSESSMENT REPORTS

APPENDIX G- GLOSSARY of DEFINITIONS

Amateur Radio – A radio communication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that it, duly authorized persons interested in radio technique solely with a personal aim and without a pecuniary interest.

ARES – Amateur Radio Emergency Service. A nationwide organization of Radio Amateurs who have registered their qualifications and equipment for public service communications with their local ARRL Section Emergency Coordinator.

ARRL – American Radio Relay League – The nationwide organization of amateur radio..

Communications Emergency – Whenever the volumes of communications traffic exceeds the capacity of communications facilities, whatever the cause.

DEC – District Emergency Coordinator – The Amateur Radio operator, appointed by the ARRL Section Emergency Coordinator, to coordinate emergency related public service communications for a defined geographical or functional area.

EC – Emergency Coordinator – The Amateur Radio operator, appointed by the ARRL Section Emergency Coordinator, to coordinate emergency related public service communications in a designated geographical area.

Health and Welfare Communications – Traffic relating to the disaster survivor's health and welfare, originating from the disaster site, or destined for the disaster site. This traffic is passed only after other traffic has been handled.

HF – High Frequency. The frequency range of 3 to 30 MHz.

MARS – Military Affiliate Radio System – An organization of Radio Amateurs who provide auxiliary communications for the military services.

NTS – National Traffic System – A network established by the ARRL, for the handling of messages over any distance.

RACES – Radio Amateur Civil Emergency Service – A radio service using amateur stations for civil defense communications during periods of local, regional or national civil emergencies.

RACES Radio Officer – An individual who holds a valid Amateur Radio license of General Class or higher who has been appointed in writing by a government authority as the volunteer RACES Radio Officer for that jurisdiction. This person is responsible for coordinating the RACES activities of the government authority. A sample appointment form can be found in Appendix C.

RACES Radio Operator – An individual who holds an amateur radio license who has also been appointed in writing by a government authority as a volunteer RACES operator for that government's jurisdiction. A sample appointment form can be found in Appendix D.

Stations designated as a RACES station - by a government authority may operate in the Amateur Radio Service when such operation is permitted and in RACES when such activation is requested by the government agency. It is recommended that all stations designated as RACES stations obtain written appointment documentation indicating this appointment. Proof of this appointment should be kept in the station records. A sample appointment form is available as Appendix D to this document.

UHF – Ultra High Frequency. The frequency range from 300 to 1000 MHz.

VHF – Very High Frequency. The frequency range from 30 to 300 MHz.

In a Report and Order adopted December 22, 1999, and released December 30, 1999, the Federal Communications Commission adopted rule changes that eliminate Radio Amateur Civil Emergency Service (RACES) station licenses. The Commission's comments are as follows:

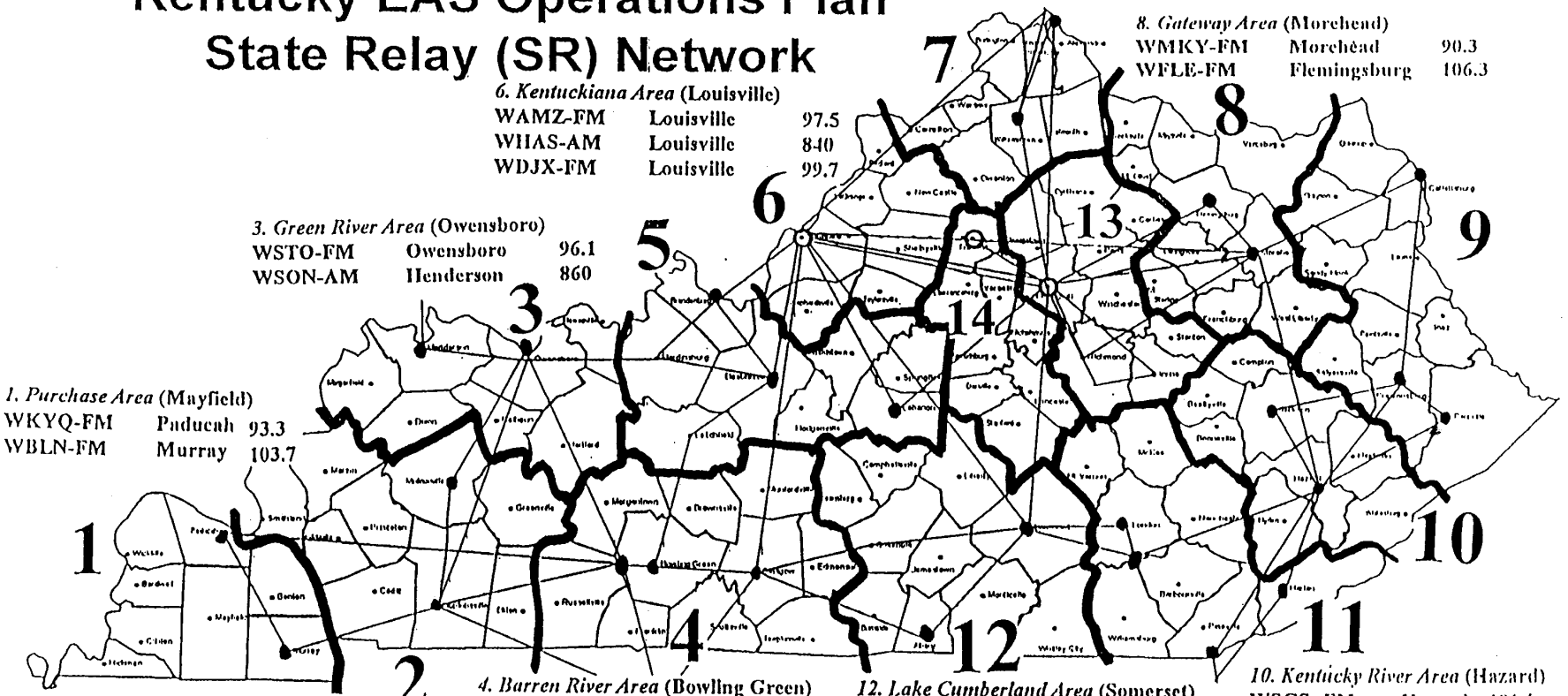
"Background. The RACES, as it was envisioned when it was authorized in 1952, was to be a temporary service designed to afford radio communication for civil defense purposes. Under our Rules, we permit two types of stations to operate as part of the RACES: (1) a licensed RACES station, and (b) any amateur station that has been properly registered with a civil defense organization. Thus, we observed that to engage in RACES communications, it is not necessary to have a RACES station license with a separate and distinct call sign. For that reason, we proposed to amend our Part 97 Rules to phase out RACES station licenses by not renewing them. We observed that by eliminating the RACES station licenses, we would be taking steps which (a) would eliminate licensing duplication because emergency communications that are now transmitted by RACES stations also may be transmitted by primary, club, or military recreation stations, and (b) would conserve our financial resources. We also observed that no new RACES station licenses have been granted since July 4, 1980. In addition, we proposed to continue the status quo by not issuing any new RACES station licenses.

"Decision. Most of the comment specifically addressing this issue support our proposal to phase out RACES station licenses. In contrast, the elimination of RACES station licenses is opposed by Mr. William R. Slye, Jr. He states that in an emergency situation, it is beneficial to have a continuity of call signs so that a certain call sign is associated with a particular Emergency Operations Center or other emergency facility. He also believes that issuing RACES licenses is not overly burdensome to the Commission because current automation in licensing is available at the Commission. Taking a neutral position, Mr. Martin D. Wade suggests that before we take any further action regarding RACES station license, we should further study the RACES program and its place in Part 97 of our Rules.

"After review of the record, we conclude that we should eliminate RACES station licenses because RACES station licenses are unnecessary for amateur stations and amateur service licenses to provide emergency communications. Additionally, these licenses duplicate the communications that we have authorized; primary, club, or military recreation stations to transmit, and not issuing RACES station licenses would conserve our financial resources because, currently, such issuance is not an automated process."

The FCC ordered that effective April 15, 2000, Part 97 of Chapter I of Title 47 of the Code of Federal Regulations is amended accordingly.

Kentucky EAS Operations Plan
State Relay (SR) Network



1. Purchase Area (Mayfield)

WKYQ-FM	Paducah	93.3
WBLN-FM	Murray	103.7

2. Pennyrile Area (Hopkinsville)

WHOP-FM	Hopkinsville	98.7
WHRZ-FM	Madisonville	97.7
WKTG-FM	Madisonville	93.9

3. Green River Area (Owensboro)

WSTO-FM	Owensboro	96.1
WSON-AM	Henderson	860

4. Barren River Area (Bowling Green)

WBLG-FM	Bowling Green	107.1
WVVR-FM	Russellville	100.3
WGGC-FM	Glasgow	95.1

5. Lincoln Trail Area (Elizabethtown)

WMMG-FM	Brandenburg	93.5
WLSK-FM	Lebanon	100.9
WQXE-FM	Elizabethtown	98.3
WULF-FM	Hardinsburg	94.3
WKHG-FM	Leitchfield	104.9

6. Kentuckiana Area (Louisville)

WAMZ-FM	Louisville	97.5
WHAS-AM	Louisville	840
WDJX-FM	Louisville	99.7

7. Northern Kentucky Area (Covington)

WNKU-FM	Highland Hts	89.7
WNKR-FM	Dry Ridge	106.5

8. Gateway Area (Morehead)

WMKY-FM	Morehead	90.3
WFLE-FM	Flemingsburg	106.3

9. Big Sandy Area (Prestonsburg)

WDGG-FM	Ashland	93.7
WDHR-FM	Pikeville	92.1
WQHY-FM	Prestonsburg	95.5

10. Kentucky River Area (Hazard)

WSGS -FM	Hazard	101.1
WJSN-FM	Jackson	106.5

11. Cumberland Valley (Middlesboro)

WXJB-FM	Middlesboro	96.5
WCTT-FM	Corbin	107.3
WTUK-FM	Harlan	105.1
WFTG-AM	London	1400

12. Lake Cumberland Area (Somerset)

WSEK-FM	Somerset	97.1
WAIN-FM	Columbia	93.5

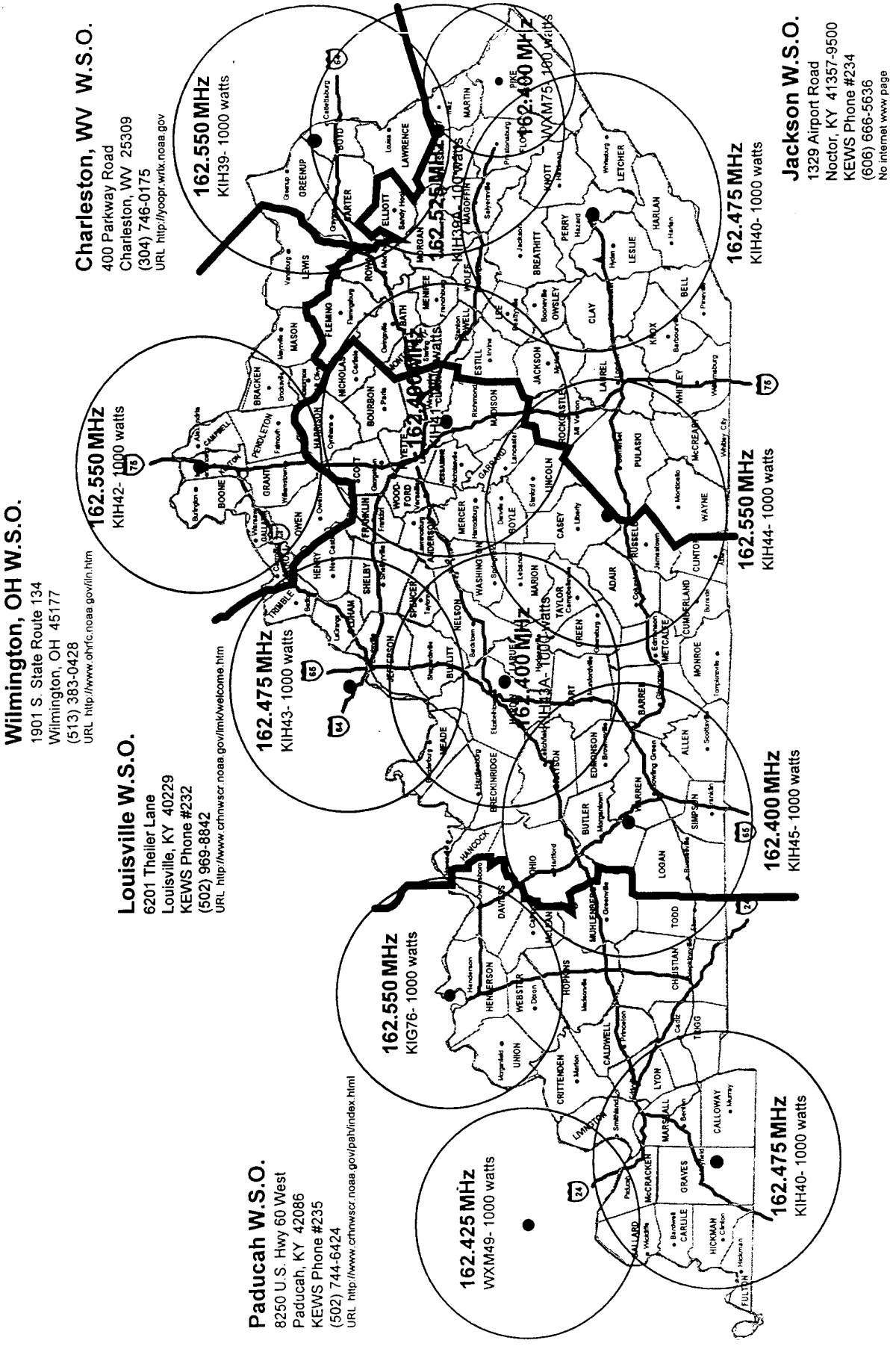
13. Bluegrass East (Lexington)

WKXO-FM	Richmond	106.7
WCYO-FM	Irvine	106.1

14. Bluegrass West (Lawrenceburg)

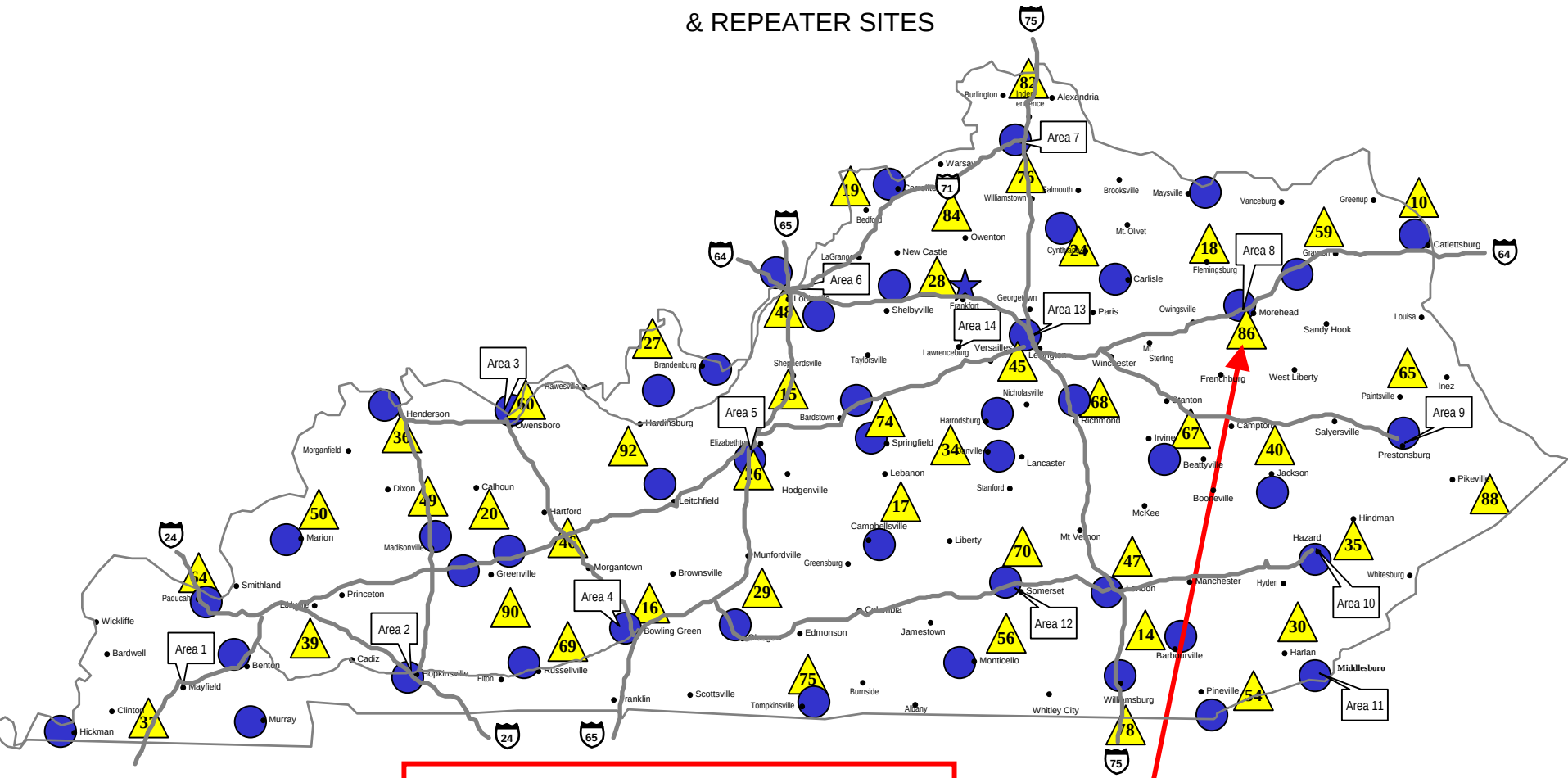
WVLK-AM	Lexington	590
WKED-FM	Frankfort	103.7

APPENDIX B-3
NOAA WEATHER STATION MAP



Location and approximate acceptable range (40 miles) of NOAA Weather Radio (NWR) transmitters in KY. Sites denoted by 100 watts are shadow transmitters instead of the normal NWR operating power of 1000 watts.

APPENDIX B-4
KENTUCKY NETWORK MAP
& REPEATER SITES



Example: To Call Frankfort thru the Morehead Repeater
On DTMF Pad Enter 862
When Commo is Complete Enter 863
For Local Repeater Operation Enter 861
When Commo is Complete Enter 863
For Simplex use the "D" Key (Motorola)
1 Activates Repeater
2 Activates Frankfort
3 Disables Repeater/Frankfort

DUTY OFFICER CAN CROSS CONNECT ANY TWO REPEATERS FOR MOBILE OPERATIONS STATEWIDE. PHONE PATCH AVAILABLE THRU DUTY OFFICER

One inch = approx 40 mi

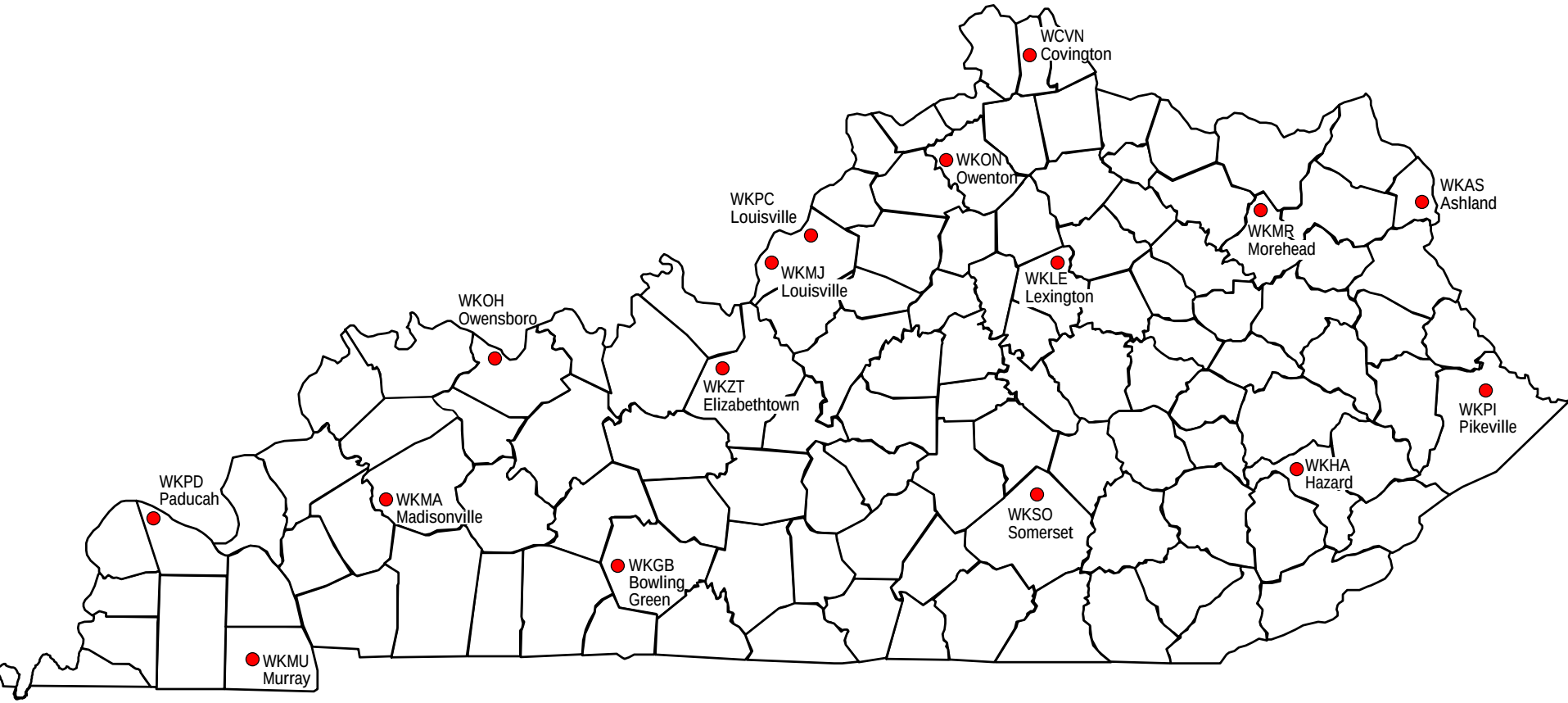
Example: To Call Frankfort thru the Morehead Repeater

On DTMF Pad Enter 862
FFT this is NR# over Morehead Over
When Commo is Complete Enter 863
For Local Repeater Operation Enter 861
When Commo is Complete Enter 863
For Simplex use the "D" Key (Motorola)

1 Activates Repeater
2 Activates Frankfort
3 Disables Repeater/Frankfort

DMA/KyEM Repeater Sites				
#	Name		Name	#
10	ASHLAND		ASHLAND	10
14	BARBOURVILLE		BARBOURVILLE	14
15	BARDSTOWN		BARDSTOWN	15
16	BOWLING GREEN		BOWLING GREEN	16
17	CAMPBELLVILLE		CAMPBELLVILLE	17
18	FLEMINGSBURG		CARROLLTON	19
19	CARROLLTON		CENTRAL CITY	20
20	CENTRAL CITY		COVINGTON	82
24	CYNTHIANA		CYNTHIANA	24
26	ELIZABETHTOWN		DRYRIDGE	76
27	FT. KNOX		EDDYVILLE	39
28	FRANKFORT		ELIZABETHTOWN	26
29	HORSE CAVE		FLEMINGSBURG	18
30	HARLAN		FRANKFORT	28
34	HARRODSBURG		FT. KNOX	27
35	HAZARD		HARLAN	30
36	HENDERSON		HARRODSBURG	34
37	HICKMAN		HARTFORD	46
39	EDDYVILLE		HAZARD	35
40	JACKSON		HENDERSON	36
45	LEXINGTON		HICKMAN	37
46	HARTFORD		HOPKINSVILLE	90
47	LONDON		HORSE CAVE	29
48	LOUISVILLE		JACKSON	40
49	MADISONVILLE		LEITCHFIELD	92
50	MARION		LEXINGTON	45
54	MIDDLESBORO		LONDON	47
56	MONTICELLO		LOUISVILLE	48
59	OLIVE HILL		MADISONVILLE	49
60	OWENSBORO		MARION	50
64	PADUCAH		MIDDLESBORO	54
65	PAINTSVILLE		MONTICELLO	56
67	RAVENNA		MOREHEAD	86
68	RICHMOND		OLIVE HILL	59
69	RUSSELLVILLE		OWENSBORO	60
70	SOMERSET		OWENTON	84
74	SPRINGFIELD		PADUCAH	64
75	TOMKINSVILLE		PAINTSVILLE	65
76	DRYRIDGE		PIKEVILLE	88
78	WILLIAMSBURG		RAVENNA	67
82	COVINGTON		RICHMOND	68
84	OWENTON		RUSSELLVILLE	69
86	MOREHEAD		SOMERSET	70
88	PIKEVILLE		SPRINGFIELD	74
90	HOPKINSVILLE		TOMKINSVILLE	75
92	LEITCHFIELD		WILLIAMSBURG	78

APPENDIX B-5
KENTUCKY EDUCATIONAL TELEVISION NETWORK



TRANSMITTER LOCATIONS
(The KET Network consists of
16 Transmitters and 4 Translators)

APPENDIX B-6
SHIELDING ELECTRONIC COMPONENTS FROM NUCLEAR EFFECTS

I. SITUATION AND ASSUMPTIONS

A. Without effective communication, military engagements of the future could be over in a few billionths of a second. In one possible scenario, the aggressor would detonate a single high altitude nuclear burst of 10 or more megatons at the geographic center of North America. Within 3 to 5 nanoseconds, the resulting nuclear electromagnetic pulse (EMP) could disable virtually every kind of unprotected electronic and electrical circuit. Damage to command control and communication systems could be irreversible within the limited time available to respond.

B. Military strategists in the United States consider an EMP inducing burst as the most likely first move in a major conflict. The expected precursor burst would be 10 to 50 megatons, about 250 miles above ground. For an attack on the United States, the best point of detonation would be near the geographic center of the continent - somewhere over Nebraska - for the most effective propagation. Without effective countermeasures, every electrical and electronic device within a radius of about 2,000 miles could be rendered useless by this single blast.

C. Even if communications systems have been hardened against this threat, the disruption might be significant. However, one can predict with certainty the magnitude of the effects and resulting damage. EMP should cause a voltage surge in all types of metal conductors, including not only circuits on the ground, but also extending to the fuselages and avionics of aircraft and even the internals of satellites in near earth orbit.

D. Despite its potentially disastrous effects, some military strategists regard an EMP attack as non-nuclear. The high altitude burst is "clean" and creates no shock wave or fallout. Thus, if this were the only thermonuclear device used in an opening attack scenario, it might not necessarily invite ground attack nuclear retaliation. Clearly, such considerations further increase the likelihood on an EMP precursor attack.

E. Some everyday threats related to EMP for which effective countermeasures have long been available are better understood. These related threats include: lightning or lightning induced effects, electromagnetic interference and electrostatic discharge. These all exhibit much slower times to peak.

F. Other potential effects of a nuclear blast are electromagnetic interference (EMI) and electrostatic discharge.

II. CONCEPT OF OPERATIONS-EMP COUNTERMEASURES

A. A wide variety of active EMP countermeasures exist, with varying degrees of success. These countermeasures include: shielding, wave guide beyond cutoff, spark gap arrestor, filter network, metal oxide varistor, fiber optic circuitry and

high speed Zener diode.

1. Shielding involves surrounding a circuit with metal or coating its enclosure with metallic paint and providing a low resistance path to ground. Although it provides some degree of protection from EMP, shielding cannot be regarded as an effective countermeasure by itself, especially at high frequencies, since leakage can occur through even the smallest gaps.

2. Waveguides and spark gap arrestors represent relatively old protection technologies that generally are not suitable for suppressing EMP in digital, semiconductor based equipment.

3. A typical filter network for surge protection is a configuration of capacitor-inductor-capacitor called a pi filter because it's schematic resembles the Greek letter "pi". The pi filter has proven to be an effective countermeasure for threats such as EMI and low-level EMP.

4. The metal oxide varistor (MOV) is a recent generation semi conducting device that conducts at high voltages. MOVs typically are used in overload protection circuits. Drawbacks of using MOVs for EMP suppression include relatively slow response time and a tendency for performance to degrade with each overload.

5. Using fiber optic circuitry might be considered an ideal solution to all types of frequency and voltage related threats. This would be an excellent alternative if a system could be built entirely from light sensitive logic devices. However, with current, off-the-shelf technology, interfaces with copper and silicon based electronic systems are still necessary. Thus, EMP suppression still must be provided at each point where optical signals are converted to electronic signals.

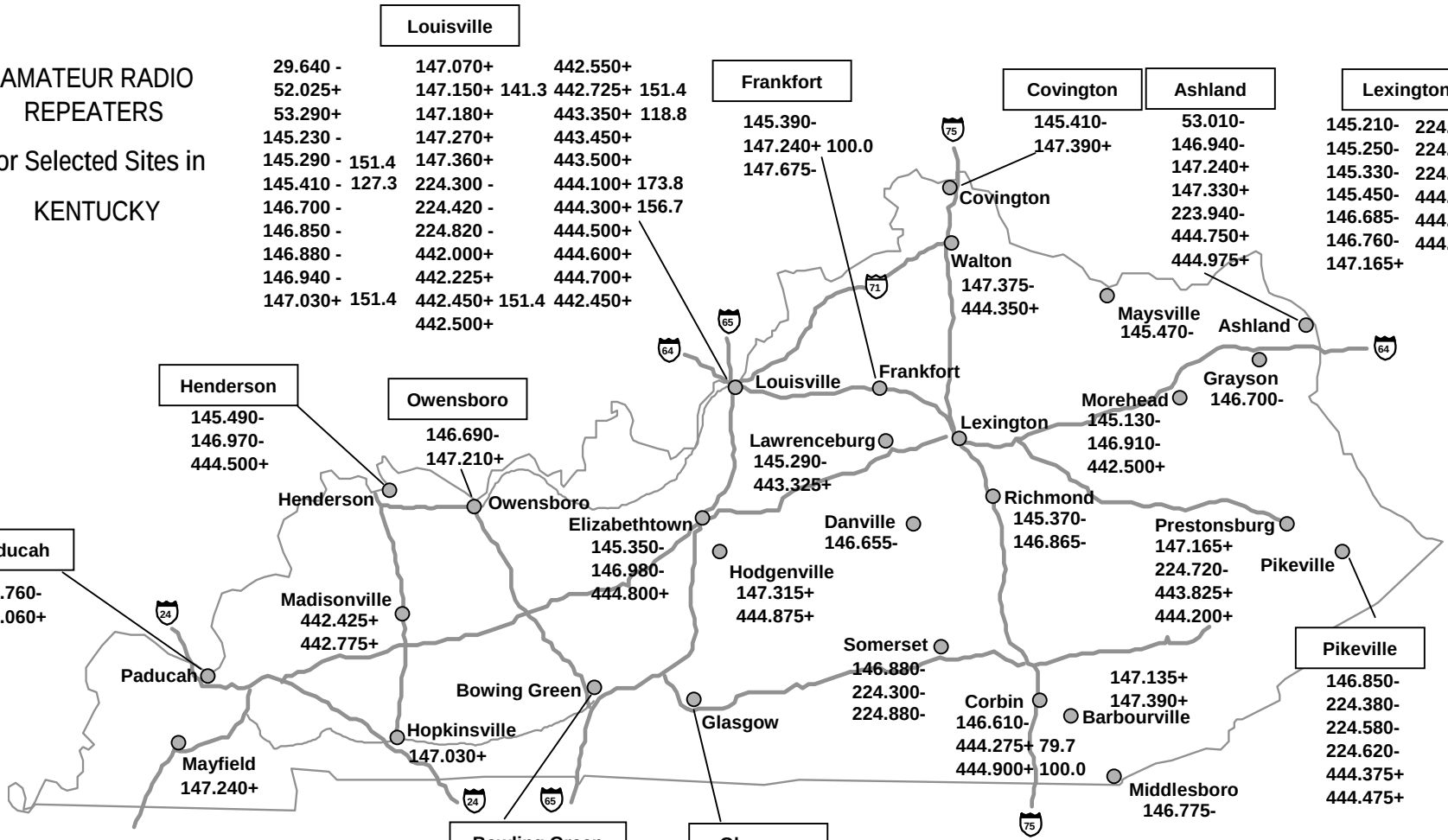
6. A high speed Zener diode provides EMP suppression. Since the pi filter protects against EMI, the combination of these two countermeasures at circuit interfaces protects against both frequency and voltage related threats. Incorporating a dual filter design in each line that enters an electronic module or black box can provide effective and reliable protection against EMP and EMI.

B. A passive EMP countermeasure consists of unplugging the equipment from the electrical power system and the antennae, plus providing some shielding.

AMATEUR RADIO REPEATERS

For Selected Sites in

KENTUCKY



2 Meter offset is 600 KHz
220 MHz offset is 1.6 Mz
440 MHz offset is 5.0 MHz
1.2 GHz offset is a2 0r 20 MHz
[+] Transmit up (Offset)
[-] Transmit down (Offset)

For a statewide listing of Kentucky Amateur Radio frequencies, access the following website:

http://www.artscipub.com/repeaters/dsprpts.asp?state=Kentucky

APPENDIX B-8
COMMUNICATIONS MATRIX

INFORMATION / PARTICIPANTS	Airborne ATC to Pilot	FAA to Pilot	LZ Control to Pilot	AO to Pilot	LZ Control to Air Control	LZ Control to AO	AO to LZ Control	AO to Hospital	AO to Police	CP to AO	Med Crew to Hospital	Hospital to AO	Pilot to AO	Pilot to CP	Pilot to Airborne ATC
FAA Air Traffic Control		**UHF VHF**													
ETA Landing Zone							**UHF VHF FM**		**UHF VHF**				**UHF VHF**	**UHF VHF**	
Landing Zone Conditions: Wind speed/Direction Lighting/Availability			**UHF VHF FM**		**UHF VHF FM**	**UHF VHF FM**									**UHF VHF**
Landing Zone Coordinates/ Landmarks			**UHF VHF**	**UHF VHF FM**	**UHF VHF**	**UHF VHF**				**UHF VHF FM**					
On-Scene ATC of Landing	**UHF VHF**				**UHF VHF FM**				**FM** Cell Phone						
Alert Notification				**UHF VHF** Cell Phone											
Damage Assessment													**UHF VHF** Video		
Mission Assignment				**UHF VHF**											
Mission Requirements										**FM** Cell Phone					
Security/Ground Control												**FM** Cell Phone			
ETA Hospitals								**FM** Cell Phone			**FM**		**FM UHF VHF**		
Hospital Resources															
Patient Status											**FM**				

AO = Air Operations
CP = Command Post